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ABSTRACT

The relationship of the dimensions of the Myers-Briggs Type Indicator (MBTI) to scores on the National Teacher's Examination (NTE) was examined. The MBTI classifies people on each of four indices: extraversion/introversion, sensing/intuition, thinking/feeling, and judgment/perception. A sample of 111 students, 90 percent of whom were black, enrolled in the student teaching semester at the North Carolina Central University (NCCU) during the 1979-80 academic year were administered the MBTI: other data, including Scholastic Aptitude Test (SAT) scores, grade point average, and NTE scores, were obtained from university records. Several stepwise multiple regression analyses were computed with the NTE common examination as the criterion variable and the four dimensions of the MBTI serving as predictors. The sensing intuitive dimension alone was found to be a significant predictor while the judging/perceiving dimension was found to significantly increase the R-square obtained when SAT scores were used as predictors. It is suggested that since certain minimum scores are required for certification in North Carolina, these results may have implications for the counseling of NCCU education majors. The data were consistent with past results indicating that most teachers are classified as sensing types, and like most sensing types, they score below the intuitive types on a standardized test. It is concluded that the study confirms the importance of examining the interaction between the academic qualifications and the personality types of students in training as well as in selecting students. A bibliography is appended. (SW)

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THE RELATIONSHIP OF THE MYERS-BRIGGS TYPE INDICATOR TO SCORES ON THE NATIONAL TEACHER'S EXAMINATION

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Mary Corcoran
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ABSTRACT

The relationship of the dimensions of the Myers-Briggs Type Indicator (MBTI) to scores on the National Teacher's Examination (NTE) was examined. The sample was student teachers at North Carolina Central University (NCCU). The data were analyzed by a multiple regression analysis, with the four dimensions of the MBTI serving as predictors and NTE common examination scores as the criterion variable.

The Sensing-Intuitive dimension alone was found to be a significant predictor while the Judging-Perceiving dimension was found to significantly increase the R-Square obtained when Scholastic Aptitude Test scores were used as predictors. Since certain minimum scores are required for certification in North Carolina, these results may have implications for the counseling of NCCU education majors.

THE RELATIONSHIP OF THE MYERS-BRIGGS TYPE INDICATOR TO SCORES ON THE NATIONAL TEACHER'S EXAMINATION

Students training for many professions must pass licensing examinations before they can begin to practice their profession. In the fields of law, nursing and medicine, stringent examinations have been the standard for many years. Since 1964, education students in the State of North Carolina have faced a similar situation. North Carolina requires that all applicants for permanent teaching certificates make certain minimum scores on the National Teacher's Examination (NTE). These minimum scores were set at 950 for combined common and area examination scores for several years. The minimum scores on the common portion of the examination are being raised over a four year period until a final ceiling of 529 is reached. The first increase occurred on July 1, 1980. Minimum scores on the area test will vary, with the lowest cutoff (470) in German and the highest (680) in Speech Pathology. The minimum passing scores for the Early Childhood and the Elementary Education examinations will be 520 and 580 respectively (North Carolina Department of Public Instruction, 1978). Although the desire to improve the qualifications of North Carolina teachers is reasonable, the use of the NTE for this purpose may not be the most effective strategy and the consequences are severe

for those students who do not pass: after four years of college the student cannot practice her/his profession in North Carolina.

The faculty of the Education Department at North Carolina Central University (NCCU) is particularly concerned since the students at NCCU (along with students at other predominantly black institutions within the state) have a lower passing rate than students at predominantly white institutions. For example, the passing rate of NCCU students with the cutoff score of 950 has been approximately 72% and it should be noted that this is higher than at other predominantly black state-supported institutions. This compares with 92% statewide. For several years, faculty in the department have attempted to find predictors of NTE scores so that students with little expectation of passing can be counseled to change majors or to begin remedial training. Cognitive predictors of NTE scores have been examined in other studies. For example Pratt, DeLucia and Uhl (1979) found that Scholastic Aptitude Test (SAT) scores were good predictors of NTE common examination scores (R-Square=.39) for NCCU students, and Ayres (1980) found that the total SAT score was an unusually good (R-Square=.77) predictor of NTE common examination scores for students from all state supported education programs in North Carolina. Since blacks often tend to score lower than whites on cognitive standardized tests (as evidenced by Jacobson's (1980) report on mi-

nority scores on SAT and Graduate Record examinations), and, as a result, often distrust this type of examination, the authors were particularly interested in identifying non-cognitive predictors. The Myers-Briggs Type Indicator (MBTI) was chosen for study because it is easy to administer, relatively non-threatening, and has been found to be useful in counseling by the Center for the Application of Psychological Type (CAPT) at the University of Florida.

The present study will examine: (1) whether any of the four dimensions of the MBTI reliably predict NTE common examination scores of education students at NCCU; and (2) whether any of the four dimensions predicts significantly more of the variance in NTE common scores than is predicted by SAT scores alone.

The Myers-Briggs Type Indicator

The MBTI is a personality type indicator. The purpose of the instrument is to classify individuals according to their personality characteristics. The MBTI was not designed to identify or diagnose personality disorders; rather, Isabella Briggs Myers and Katherine C. Briggs developed the instrument to implement Carl G. Jung's theory of personality type. In accordance with Jung's theory, the instrument classifies individuals on each of four indices. The results are used to identify the person's bi-polar preferences on the four dimensions or indices. These four indices are:

1. Extraversion-Introversion (EI)--This index is designed to reflect whether the person is an extravert, oriented primarily to the outer world or an introvert with perception and judgment focused on/ an inner world of concepts and ideas.
2. Sensing-Intuition (SN)--This index is designed to reflect the individual's preferred use of the perceptual process. Those classified as Sensing types tend to become aware of things directly through one or another of the five senses while those classified as Intuitive types tend to enrich perceptions with ideas or associations.
3. Thinking-Feeling (TF)--This index is designed to reflect the person's preferred use of the judging process, i. e. whether the individual relies primarily upon thinking, which discriminates impersonally between true and false, or primarily upon feeling which discriminates between valued and non-valued.
4. Judgment-Perception (JP)--This index reflects whether the person prefers to rely on the judging process or upon the perceptual process.

The combinations produced by the two poles of each of the four dimensions lead to sixteen distinct personality types (ESTJ, ESTP, INFP, etc.).

Two points concerning the instrument should be emphasized. First, although people are classified as to which

pole of the four indices they prefer, they occasionally will act in a manner more appropriate to preference for the opposite pole. Second, Jungian theory describes these four dimensions as dichotomies, so that a person must be classified as either an introvert or an extravert, as either a sensing type or an intuitive, etc. The MBTI itself, however, is designed in such a way that continuous as well as dichotomous scores can be computed on each of the four dimensions. Although use of the continuous scores may not be in accord with Jungian theory it does prevent the loss of information through reduction to a dichotomy. Therefore in this study, the MBTI will be scored both ways. The MBTI is a self-report instrument containing 166 items which can be completed in about an hour.

METHOD

Sample

The sample was 111 students enrolled in the student teaching semester at NCCU during the 1979-1980 academic year. All students were given the Myers-Briggs Type Indicator sometime during the semester in which they were enrolled. Other data, including Scholastic Aptitude Test (SAT) scores, grade point average as the student entered student teaching and NTE scores were obtained from university records. Seventy-three of the 111 students had taken the

NTE at the time these data were analyzed and total data, including SAT scores were available for 53 students. Scholastic Aptitude Test data were not available for those students who transferred into the NCCU program and for some non-traditional (primarily older) students who entered as special students.

Because the majority (over 90%) of our sample was black while most of the previous MBTI studies have used non-black samples, it was important to determine if the distribution of personality types in this sample was comparable to the distribution in other samples. Although many samples are available for comparison (Myers, 1962, McCaulley, 1976), two were chosen. The first was elementary education majors at Applachian State University, a predominantly white university which, like NCCU, is a part of the sixteen campus University of North Carolina system. The second was a sample of Howard University students. The study utilizing the Howard data (Levy, Murphy, and Carlson, 1972) was one of the few studies of the MBTI in a predominantly black population reported in educational and psychological literature. Table 1 contains a summary of the type preferences of the students in these two groups. The NCCU sample included those students who completed the MBTI and who had taken the NTE at the time these data were analyzed. The data for all three groups are similar on the SN and the JP dimensions, and the Howard and NCCU samples are similar on the EI dimension.

The greatest discrepancy occurs on the TF dimension between the NCCU and the Applachian State samples. A very large percent (85%) of the Applachian State Education majors prefer the Feeling pole of the TF dimension while only 54% of the NCCU students prefer that pole. Although there are some similarities between the NCCU and the Applachian State samples, there appear to be major differences on the TF dimension. However, it should be noted that the Applachian sample consisted of elementary education majors while the NCCU sample included students planning to teach at all levels from kindergarten through high school. McCaulley (1974) indicated that while 66% of a sample of elementary and middle school teachers were Feeling types, only 49% of a group of high school teachers fell into that category.

Data Analysis Procedure

Several stepwise multiple regression analyses were computed. In each analysis the NTE common examination was the criterion variable. The analyses were:

1. The dichotomous scores on the four MBTI dimensions as predictors, both individually and in combination,
2. The dichotomous scores as above with SAT verbal and math scores already entered as predictors,
3. The continuous scores on the four MBTI dimensions as predictors,

4. The continuous scores as above with SAT verbal and math scores already entered as predictors, and
5. The SAT verbal and math scores as the only predictors.

This analysis procedure allowed examination of the value of the four dimensions of both the dichotomous and the continous scores as predictors, and, in addition, allowed examination of the extent to which one or more of the dimensions increased the variance accounted for by SAT scores alone.

RESULTS

Dichotomous Scores on the MBTI Dimensions

As indicated in Table 2 the SN dimension was a significant predictor of NTE common examination scores, with an R-Square of .11, indicating that this single dimension accounted for 11% of the variance in the NTE scores. The two SAT scores alone, as might be expected, accounted for an even larger share of the variance (52%). Of the four dichotomous dimensions, only the JP dimension contributed significantly to the prediction of NTE scores when combined with SAT scores. The addition of the JP dimension to SAT verbal and math scores increased the R-Square from .52 to .56.

Although the addition of the JP (rather than the SN dimension) to the regression equation when the SAT scores were predictors was rather unexpected, it can be explained by the interaction of the two dimensions and their relationship to the SAT scores. One of the characterictics of Intuitive types is that they tend to do well on all types of tests (Myers, 1962), and this appears to hold true in this sample since the mean NTE score of the Intuitive types is 503 compared to a mean score of 447 for the Sensing types. This difference is significant ($F=6.22$, $df=1,52$, $p< .05$). The SN dimension, which was the only predictor when SAT scores were not included in the analysis, is positively correlated with both SAT verbal ($r = .33$) and with SAT math scores ($r = .22$). The SAT scores appear to account for much of the same variance as the SN dimension, so that the effectiveness of the SN dimension as a predictor is reduced in the equation once the SAT scores are introduced. The JP dimension, which has less overlap with SAT scores (r's = .04 and .20 with SAT verbal and SAT math respectively) then emerges as a predictor. It should also be noted that the majority of the students classified as Intuitives (8 of 11) are also perceiving types and that the majority of Sensing types (32 of 43) are Judging types.

Continuous Scores on the MBTI Dimensions

The results of the analyses using continuous scores are presented in Table 3. As with the dichotomous scores, the SN dimension was a significant predictor of NTE scores when only the four dimensions were considered as predictors. On the other hand, none of the continuous scores added significantly to the variance explained by the two SAT scores.

DISCUSSION

The results of this study are both promising and disappointing: disappointing because the MBTI dimensions did not add appreciably to the ability to predict NTE scores when the more easily available SAT scores are used; promising because the MBTI has proved consistent from a theoretical and practical standpoint, thus confirming its potential to provide an increased understanding of students' test performance.

Although our population was substantially different from those studied in the past in that it was predominantly black, the data are consistent with past results, i.e., like most teachers, the majority of our sample are classified as Sensing types and like most Sensing types, they scored below the Intuitive types on a standardized test, (the NTE in this case). McCaulley (1974) in a discussion of the relationship

of the MBTI to the teaching-learning process indicates that students who prefer the Sensing pole tend to be at a disadvantage in timed tests because of a tendency to read questions several times.

This consistency with past research leaves the education program at NCCU with the same problem faced by other education programs. As summarized by McCaulley (1974) the problem is that elementary school teachers who are most often Sensing types must teach students with both Sensing and Intuitive preferences, the most talented of which are the Intuitive types. Unless the teacher is aware of the different orientation of Intuitive students, these students are in danger of getting through school with flashes of insight and little effort and "....often come to college with poorly developed skills for persistence in academic achievement."

On the other hand

> The Extraverts with Sensing are the most pragmatic of the types-interested in theory only if it has immediate application. With Extraverts outnumbering Introverts, and Sensing types outnumbering Intuitives, it is clear that the schools have a large number of students to teach whose best road to knowledge is through active experience, not second-hand reading of books...Many teachers in Florida are beginning to look at all our teaching

> methods, to see which methods are most attuned to the different types of students (McCaulley, 1974, p 7).

This study confirms the importance of examining the interaction between the academic qualifications and the personality types of students in training as well as in selecting students. With further study, it may be possible to use the MBTI in counseling students regarding their performance on the NTE. This may prove particularly useful in counseling transfer students and other students for whom SAT scores are not available. Even if the MBTI does not prove useful as a predictor, discussion of the MBTI and the relation of personality types to classroom performance should prove useful to NCCU students and instructors as it has to students and teachers in Florida.

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TABLE 1

Comparison of Myers-Briggs Types of NCCU and Applachian State University Education Majors and Howard University Students

Dimension	NCCU (N=73)	Applachian State (N=206)	Howard (N=447)
E	46%	63%	50%
I	54%	37%	50%
S	77%	65%	62%
N	23%	35%	38%
T	46%	15%	40%
F	54%	85%	60%
J	68%	57%	63%
P	32%	43%	37%

TABLE 2

Summary of Analyses Using MBTI Dichotomous Scores as Predictors and NTE Common Scores as the Criterion

Predictors	N	R-Square	P
Sensing-Intuiting	54	.11	p< .050
SATV and SATM	54	.52	p< .001
SATV,SATM + JP	54	.56	p< .001

TABLE 3

Summary of Analyses Using MBTI Continuous Scores as Predictors and NTE Common scores as the Criterion

Predictors	N	R-Square	P
Sensing-Intuiting	54	.08	p< .050
SATV and SATM	54	.52	p< .001